

REMARKS

Claims 1-18 are pending in this application. By this Amendment, claims 1-18 are amended. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and withdrawal of the outstanding rejections are respectfully requested.

Applicant appreciates the courtesies shown to Applicant's representatives by Examiner McClendon in the August 4 personal interview.

Objection

Claims 8 and 18 are objected to as being identical. Claim 18 has been amended to recite "[t]he method of claim 7," and thus is of different scope than claim 8. Accordingly, withdrawal of the objection is respectfully requested.

Rejection Under 35 U.S.C. §102(e)

The Office Action rejects claims 1-18 under 35 U.S.C. §102(e) over U.S. Patent No. 6,106,761 to Sjoberg et al. ("Sjoberg I"). Applicant respectfully traverses the rejection.

Sjoberg I does not disclose each and every element of claim 1. Claim 1 recites "[a] method for processing polymer or elastomer material, comprising: adding additive to the polymer or elastomer material; and subjecting the additive to a desired chemical reaction; wherein infrared radiation is introduced into the polymer or elastomer material, the radiation having a wavelength that optimally penetrates the polymer or elastomer material, but absorbs in the additive to produce the desired chemical reaction therein" (emphasis added). Sjoberg I does not anticipate such a method.

The Office Action asserts that Sjoberg I teaches methods of heating and/or crosslinking of polymers. The Office Action further asserts that the disclosed methods comprise irradiating a polymer material with infrared radiation having a wavelength that is not substantially equal to the absorption peaks of the polymer material. However, nowhere

does Sjoberg I teach or suggest a method for processing polymer or elastomer material employing infrared radiation of a wavelength that absorbs in an additive to the polymer or elastomer material, as in claim 1.

It is plain from the disclosure of Sjoberg I that the disclosed method seeks to achieve uniform heating of a polymer material. *See* Sjoberg I, col. 3, ll. 9-11 ("The object of the present invention is to set forth a process and an apparatus making possible a fast, contactless and uniform heating of a polymer or polymer mix."). To avoid "heavy local surface heating" of a polymer material, Sjoberg I teaches providing "infrared radiation that penetrates through the polymer and in this way quickly heats the moulding throughout its entire thickness." *See* Sjoberg I, col. 3, ll. 20-22, col. 5, ll. 65-67. One of the objects of the instant invention is to avoid the uniform heating of Sjoberg I. Rather, the instant invention seeks to achieve "selective heating" of an additive, while avoiding heating of the polymer material to the extent possible. *See* instant specification, p. 3, ll. 32-33. By utilizing focussed heating of an additive (generally a polymer/additive mixture includes less than 2% of additive), the method of claim 1 requires much less heating energy than is required in methods such as Sjoberg I, which seek to uniformly heat a polymer/additive mixture. *See* instant specification, p. 4, ll. 3-22. These and other distinct advantages of the claimed method are neither recognized nor achieved by Sjoberg I. Accordingly, Sjoberg I does not teach or suggest the method of claim 1.

Claim 1 is not anticipated by Sjoberg I. Claims 2-18 depend from claim 1, and thus, also are not anticipated by Sjoberg I. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §102(b)

The Office Action rejects claims 1-18 under 35 U.S.C. §102(e) over WO 97/10936 to Sjoberg et al. ("Sjoberg II"). Applicant respectfully traverses the rejection.

Sjoberg II is the PCT application that resulted in Sjoberg I. The disclosure of Sjoberg II is substantially the same as the disclosure of Sjoberg I. Accordingly, for the reasons set forth above, Sjoberg II also does not teach or suggest the method of claim 1.

Claim 1 is not anticipated by Sjoberg II. Claims 2-18 depend from claim 1, and thus, also are not anticipated by Sjoberg II. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §102(b)/103(a)

The Office Action rejects claims 1, 2, 4-6, 10 and 11 under 35 U.S.C. §102(e), or alternatively under 35 U.S.C. §103(a), over GB 2,283,489 to Seaborne ("Seaborne").

Applicant respectfully traverses the rejection.

Seaborne does not teach or suggest each and every element of claim 1. As set forth above, claim 1 recites "[a] method for processing polymer or elastomer material ... wherein infrared radiation is introduced into the polymer or elastomer material, the radiation having a wavelength that optimally penetrates the polymer or elastomer material, but absorbs in the additive to produce the desired chemical reaction therein." Seaborne does not anticipate and would not have rendered obvious such a method.

The Office Action asserts that Seaborne teaches infrared curing of resins using infrared radiation that is emitted in a band having its peak at the peak frequency of the emission/absorption band of the curing reaction of the resin. However, Seaborne does not teach or suggest a method for processing a polymer or elastomer material that employs infrared radiation having a wavelength that optimally penetrates the polymer or elastomer material, but absorbs in an additive, as in claim 1.

Seaborne is directed to a method for curing resins by irradiating the resins with infrared radiation. The method of Seaborne attempts to heat a resin mixture to the temperature at which curing takes place in that particular mixture. *See* Seaborne, p. 1, ll.

14-17. The disclosure of Seaborne notes that, with or without catalysts, a resin system has a single peak in its IR spectrum that is responsible for the curing reactions. *See* Seaborne, p. 2, ll. 4-6. The method of Seaborne seeks to heat the entire resin system using infrared radiation of a particular wavelength. As explained above with respect to Sjoberg I, the instant invention seeks to achieve "selective heating" of an additive, while avoiding heating of polymer material to the extent possible. By utilizing focussed heating of an additive, the method of claim 1 requires much less heating energy than is required in methods such as Seaborne, which seek to heat an entire resin system. Accordingly, Seaborne does not teach or suggest the method of claim 1.

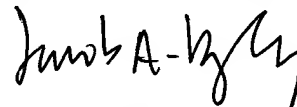
Claim 1 is not anticipated by and would not have been rendered obvious by Seaborne. Claims 2, 4-6, 10 and 11 depend from claim 1, and thus, also are not anticipated by and would not have been rendered obvious by Seaborne. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-18 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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